National Aeronautics and Space Administration

Educational Product	
Educators & Students	Grades 5-12

ET-2002-09-100-ARC

Educational Topic

Astrophysicist

Related Job Titles:

Space scientist, astronomer, research scientist, physicist, planetary scientist, space physicist, dynamicist, planetary spectroscopist, galactic astronomer, stellar spectroscopist

Job Description:

Astrophysicists study objects in the universe including galaxies and stars to understand what they are made of, their surface features, their histories and how they were formed. To study these bodies, astrophysicists often come up with new tools and ways to investigate them. Astrophysicists spend most of their time in laboratories and offices looking at a lot of information gathered by instruments such as telescopes, sensors and probes, deciding what the information means and writing papers and reports about what they find. Some also spend time discovering rules about how objects in space are formed or structured. A small portion of an astrophysicist's time is spent actually making observations with instruments. This may require travel to faraway locations and is done at night.

Interests / Abilities:

- Do you enjoy math and science?
- Do you have a good imagination?
- Do you work well on your own?
- Do you enjoy working with computers?
- Do you enjoy solving mysteries or problems?
- Do you enjoy learning about new things?
- Do you do well in math and science?

Suggested School Subjects / Courses:

- Physics
- Chemistry
- Astronomy
- Electronics
- Mathematics

Education / Training Needed:

The minimum education required for this position is a bachelor's degree in physics, mathematics, astrophysics, astronomy or a related subject from an accredited college or university. This study must include one physics, or engineering lab in aerospace instrumentation. To do research, a Ph.D. is highly desired for this position.

Areas of expertise:

- *Solar studies*: study the Sun
- *Stellar studies:* study the Sun and other stars.
- *Planetary studies*: study planets, moons, asteroids, meteoroids and comets
- *Optical physics*: design and develop instruments that measure radiation
- *Atmospheres and ionospheres*: study atmospheres on Earth, other planets and moons.
- *Fields and particles*: study magnetic, gravitational and electric fields in space

Additional Resources:

- SETI Institute Online
  (Search for Extraterrestrial Intelligence)
  http://www.seti.org
- American Institute of Physics
  http://www.aip.org
- The American Physical Society
  http://www.aps.org
- American Astronomical Society
  (request a pamphlet with information on careers in astronomy)
  http://www.aas.org
- Yvonne Pendleton's Astronomy Web site for students
  (Yvonne is a NASA astrophysicist)
  http://web99.arc.nasa.gov/~yvonne
- The Planetary Society
  http://www.planetary.org
- Astronomical society of the Pacific
  http://www.aspsky.org
- Student Educational Employment Programs
  http://nasajobs.nasa.gov/stud_opps/employment/index.htm
- NASA Jobs
  http://nasajobs.nasa.gov/
- NASA Summer High School Apprenticeship Research Program (SHARP)
  http://www.mtsibase.com/sharp/

What can I do right now?

- Visit Astro-Venture regularly to participate in chats and activities.
  http://astroventure.arc.nasa.gov
- Visit a planetarium or observatory near you.
- Call the American Association of Science and Technology Centers for information on science museums in your area that you might visit (202) 783-7200.
- Join an astronomy club.
- Buy an inexpensive telescope and study the stars from home.
- Read Astronomy and Sky and Telescope magazines.
- Ask your teacher to sign up for Astro, a program where astronomers visit your classroom.
- Attend U.S. Space Camp for a week-long program on astronomy and space sciences.

Please take a moment to evaluate this product at:
http://ehb2.gsfc.nasa.gov/edcats/educational_topic

Your evaluation and suggestions are vital to continually improving NASA educational materials.
Thank you.

http://quest.nasa.gov/people/index.html